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Assessment of the ecological state of the Larsemann hills oasis lakes (East Antarctica) based on hydrologic and hydrobiologic indicators

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Abstract

© SGEM2016.The article presents the results of a current ecological status estimation of The Larsemann Hills oasis freshwater lakes (the East Antarctica) based on hydrologic and hydro-biological indicators. Available material on the features of the lakes aquatic ecosystems were summarized with using of literature sources and authors' filed data. New data had been input in a Database and visualized with the use of GIS technology. Thus, graphs, charts, spatio-temporal patterns of the lake systems modes parameters were described. Lakes hydrochemical indicators had a large range and varied during a summer season significantly. According to the received results researched lakes belong to the oligotrophic type of trophic status and water quality, and phosphorus is a key nutrient element limiting a primary production in water body. The lakes have a high ability of a self-cleaning due to both a huge water volume and zooplankton high filtration activity. Considered lakes are characterized by a low resistance for environmental parameter changes.

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Keywords

Antarctic, Aquatic ecosystems, Hydrobiology, Hydrology